



# COMPUTER SCIENCE


in

# ARKANSAS



# WINNERS OF THE 2020-2021 #ARKIDSCANCODE ENROLLMENT CONTEST

Winners are recognized in the following categories:

- Schools with fewer than 1,000 students:
    - Greenwood Freshman Academy, Greenwood, will receive \$10,000 for having the highest number and highest percentage of students enrolled in computer science courses.
    - Blevins High School, Blevins, will receive \$5,000 for having the largest percentage increase of students enrolled in computer science courses.
  - Schools with 1,000 or more students:
    - Arkansas High School, Texarkana, will receive \$5,000 for having the highest percentage of students enrolled in computer science courses.
    - Bentonville High School, Bentonville, will receive \$5,000 for having the highest number of students enrolled in computer science classes.
    - Siloam Springs High School Conversion Charter, Siloam Springs, will receive \$5,000 for having the largest percentage increase of students enrolled in computer science courses.
- 
- A stylized illustration of a laptop computer. The screen is red and displays the text 'AR CODE KIDS' in white, with 'AR' on the top line, 'CODE' on the second line, and 'KIDS' on the third line. The laptop body is black with a red keyboard area. The entire illustration is set against a white background with a subtle drop shadow.

In addition, Annie Camp Jr. High School, Jonesboro, won the random drawing prize package worth \$5,000 that was announced in 2020. The school can use the grant to support future growth of computer science classes. Schools received entries in this random drawing for their high enrollment percentages, growth in overall computer science enrollment, as well as high percentages of female enrollment in computer science courses.

# ARKANSAS AP CS A INCENTIVE AWARDS ANNOUNCED

The Arkansas Department of Education announced the awarding of \$118,700 to students and schools under its Arkansas Advanced Placement Computer Science A Incentive Program. The purpose of the incentive program is to increase the number of qualifying scores (3, 4, or 5) on Advanced Placement Computer Science A exams. For the 2019-20 school year, the third year of this incentive program, 179 students and 36 Arkansas schools qualified for the awards.

The schools representing the top ten amounts awarded under this program are:

- Fayetteville High School - \$12,800
- Bentonville West High School - \$11,350
- Haas Hall Academy, Fayetteville - \$10,100
- Bentonville High School - \$8,550
- Valley View High School - \$6,750
- eStem High School, Little Rock - \$6,200
- Central High School, Little Rock - \$6,060
- Southside High School, Fort Smith - \$5,500
- Conway High School - \$4,850
- Har-Ber High School, Springdale - \$4,350



“Schools, both large and small, around the state have embraced the Arkansas Computer Science initiative, as demonstrated by strong student achievement on Advanced Placement exams and enrollment increases in computer science classes,” ADE Secretary Johnny Key said. “I encourage students and educators to embrace the countless computer science learning opportunities that build essential academic and workforce skills needed for the jobs of tomorrow.”

Under this program, announced here, <http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=4152>, Arkansas public school students and schools were eligible to receive a monetary incentive when the student earned one computer science credit for successfully completing an AP Computer Science A course and received a qualifying score on the AP exam taken between August 1, 2019, and May 30, 2020.

The tiered rewards are as follows:

- For a qualifying score of 5 on the AP Computer Science A exam, an Arkansas public school student received \$1,000, with the school receiving \$250.
- For a qualifying score of 4 on the AP Computer Science A exam, an Arkansas public school student received \$750, with the school receiving \$150.
- For a qualifying score of 3 on the AP Computer Science A exam, an Arkansas public school student received \$250, with the school receiving \$50.



For more information visit: <https://bit.ly/3pluXDp>



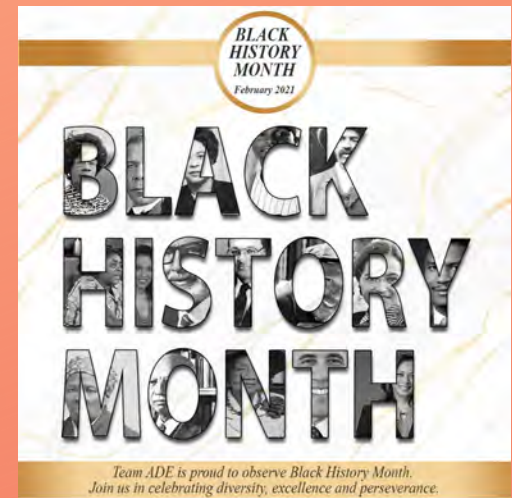
# BLACK HISTORY MONTH

February is Black History Month! Did you know that nationally only 3% of Black students learn computer science in high school or beyond.

Inspire or encourage a student to try computer science, and let them know they belong.

Code.org released the following video in honor of Black History Month. Please watch and share: <http://bit.ly/CTF2021>

Together we can change the face of computer science.



## RAYE JEAN MONTAGUE

Raye Jean Montague, dubbed an "Arkansas Hidden Figure," is remembered for her roll in shattering glass ceilings in both the Navy and computer science.



Jim Cunningham, Arkansas Democrat-Gazette

Born in Little Rock, Montague took a trip to see a submarine, and was enchanted. Though denied a place in an engineering program based on her race, Montague kept fighting for her education. Reportedly hired as a typist, Montague began her climb by learning how to use the machines the engineers near her were using. She would eventually not only to learn these machines, but to design the first Navy ship on a computer. It's worth mentioning that she was given a month, and had it completed in less than 19 hours.

Montague passed in Little Rock in 2018, but her legacy remains. For more information, you may visit her entry in the [Encyclopedia of Arkansas](#) or read about her life in her new biography authored by her son David Montague.

## TEACHER RESOURCES

For Black History Month, some Arkansas computer science educators set up a folder that contains activities and information on how to celebrate black computer scientists in the classroom, from Raye Jean Montague, an Arkansas engineer, to Mae C. Jemison, the first African American woman to travel in space. The folder can be viewed here: <http://bit.ly/2YY4mg7>

The CSforAR team invites educators to share resources and success stories this month on the ARKidsCanCode listserv.



# COMPUTER SCIENCE SPOTLIGHT



In the upcoming months, the CSforAR team is pleased to introduce Arkansas Department of Education (ADE) State Board of Education (SBE) members.

Dr. Sarah Moore was appointed to the State Board of Education in July 2018 by Governor Hutchinson. Moore taught elementary school in the Stuttgart School District and then worked in the Office for Education Policy at the University of Arkansas.

Moore was a member of the Computer Science and Cybersecurity Task Force (CSCTF) on the Education subcommittee and said the following about the work the task force accomplished, "The CSCTF was an impressive group of individuals that studied CS in K-12, Higher Education, and business/industry thoroughly from all angles. The recommendations that came out of the CSCTF are going to impact students and Arkansas' businesses for years to come."

"As CS education will reach more students and cover more issues in CS, we can expect a new generation of students that have a much better understanding of the technology around them and likely will use that knowledge to better the world."

Prior to her time on the State Board, Moore served as the education policy advisor to Gov. Asa Hutchinson, focusing on K-12 education issues, including the Computer Science Initiative. In this role, she saw firsthand that Arkansas' students will be better prepared for their future and will exceed when provided high-quality opportunities, such as computer science.

Prior to Governor Hutchinson's initiative, very few students had access to computer science courses in the state; and now, due to the initiative and hard work of many dedicated teachers across the state, thousands of students are gaining knowledge and skills in computer science that will serve themselves and our state well.

## OWEN RECEIVES PATRIOT AWARD

Eli McRae is a member of Arkansas Air National Guard and the 223rd Cyber Operations Squadron at Little Rock Air Force Base where he teaches Offensive and Defensive Cyber Operations. In addition, Eli is a computer science specialist for the CSforAR team and works tirelessly to support the Computer Science Initiative.

McRae nominated Anthony Owen, State Director of Computer Science, to receive an Employer Support for Guard and Reserve Patriot Award. The award is for employers or supervisors who go above and beyond to support members of the National Guard and Reserve components of the armed services.



McRae stated, "I am not a traditional K-12 educator and I live in Fort Smith. Anthony initially hired me as the Wilbur Educational Cooperative's CS Specialist. There were a lot of opportunities for things not to work out. However, because of Anthony's leadership—along with the team of computer science specialists he has worked to build—I was given a chance. I am genuinely proud to be among them."

McRae presented this award to Owen on Friday, February 5, 2021 via zoom with representation from the Governor's Office and leadership from ADE.



# BOOK HIGHLIGHT: DOLL-E 1.0

## #ARKIDSCANCODE / #RISEARKANSAS

The CSforAR Team reached out to librarians and educators to see what they had to say about Doll-E 1.0, a book written by Shanda McCloskey and sent to every Arkansas K-8 librarian. Here is what some had to say!

"Doll-E 1.0 is a fresh story about a modern, techie girl finding magic in an old-fashioned toy. It's a perfect accompaniment or introduction to STEM activities. While the title might be confusing for young readers, they will relate to Charlotte's imagination and need to make that old toy "do" something.

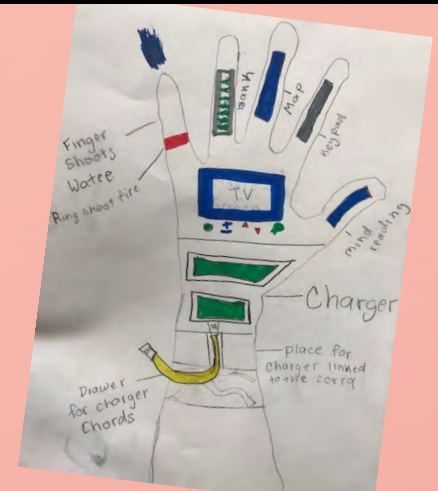
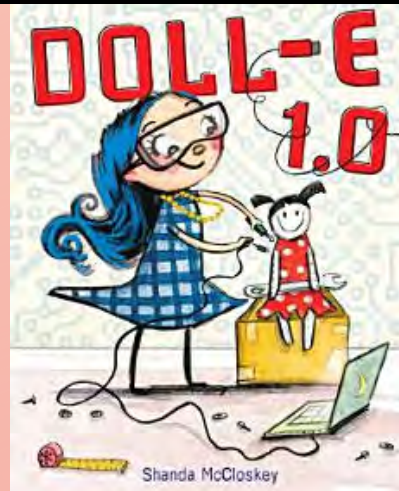
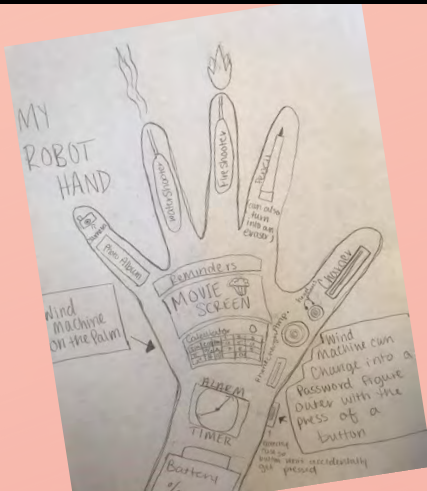
For younger grades, K-2, for example, introduce the book by having students interact with reading buddies/stuffed animals for a few minutes. Ask them what their buddies "said," or what they think their buddies would say if they could talk. Record answers on the board/chart paper.

If available, show students a talking doll. (Some may be unaware of this type of toy.) Ask them what that type of toy is called. Replies may include "doll." Ask them if they have toy dolls or "dollies" and show the book title. Explain how 1.0 usually means first generation or first edition, etc.

After reading, ask students to recall what they wanted their buddies to say and see if they have any changes or new ideas. (Begin lesson for grades 3-5 with this question.) Ask students if they prefer talking vs quiet toys. Graph the answers.

Ask students to "write code" for steps to get Doll E to speak, at least 3 steps. Accept rudimentary or inaccurate attempts as a good starting point. Ask students to consider other toys they might like to activate in some way and what they would have the toys do/say. Ask students to brainstorm a list of equipment/methods they might need to accomplish something similar to what Charlotte did. If Makey Makey equipment is available, show a preview video and provide time to tinker. (Some may choose to start the lesson with a video of Makey Makey equipment to connect to the illustrations). If STEM equipment is available, provide time to tinker.

Extension: Ask students how they think Charlotte's dog got his name. Demonstrate air pod, cordless speakers, roomba, or other Bluetooth tech." - submitted by Darby Wallace



"One of my students read this book as soon as it was put on the shelf for students. She was excited to review it. This is what she reported:

*"I like this really cute book. It's about having your own personality instead of just being like everyone else. Charlotte, in the story, turns a doll into something she likes. I also like that the pictures are full of detail."* - Ella B., 5th Grade, Norphlet Middle School

"I did an online art project when we were virtual, that I feel would go right along with this book! The students were asked to make a wish list of the many ideas of tools they would like to have if they were a robot. After making the list, they traced their hand/forearm and included by drawing/writing the items on their wish list." - submitted by Melody Morgan, Norphlet Elem./Middle School Library Media Specialist



# TEACHERS REPORT ON CS ED WEEK 2020

Computer Science Education Week 2020 was a huge success around our state, and the CSforAR Team asked to feature some educators and schools that may have gone above and beyond during CS Ed Week! See below to see how some educators and students celebrated CS Ed Week 2020.

## **Karma Turner, Lake Hamilton High School**

"On Tuesday, December 8, students in 8-12th grade completed an Hour of Code and filled out an exit survey.

"On Wednesday, December 9, students in 8th-12th grade voted for the "People's Choice" award for the 8th grade mobile app competition. The top 4 apps developers received a Sphero mini. And the culminating event on Thursday, December 10, students viewed a live In-Flight 20-minute conversation with Expedition 64 astronauts aboard the International Space Station!

"On Friday, December 11, Lake Hamilton CS Honor Society members judged the first mobile apps built by the 7th grade coding classes. The top 3 app developers received a sphero mini. Points were awarded for completing activities throughout the week. Donut party was awarded to participants in the top two 3rd period classes. These events were sponsored by our Computer Science Honor Society."



## **Jessica Talley, Magnolia East Side Elementary**

"Magnolia East Side and Kindergarten students got to experience CS Week 2020 and the week after with several online coding activities!

"Mrs. Talley's theme was simply holiday-related this year. It all started out by "tutoring" Mrs. Talley with code.org lessons and then moved into student-led Grinch Hour of Code on the school's celebrated Grinch Day. It was impressive how many Grinches made their way through all 20 sections to create their own game at the end.

"As it got closer and closer to Christmas, Mrs. Talley's youngsters practiced their coding again individually with Google's Santa Tracker website, specifically Code Lab and Code Boogie. There were all kinds of dancing and movement going on that week as students mimicked their elves' freestyle dances and gift pickup. The fun of coding of course continues all year long with other robotics lessons and more code.org, but CS week always gives us fond memories to look back on."

## **Monica Mobley, Science/STEM Specialist, Northcentral AR Education Service Cooperative**

"The Northcentral Co-op held its first annual "Hour of Code" competition.

All districts K-12 were invited to participate, with the title, "Codemaster 2021" up for grabs at the grade, school, and district levels. Part of our initiative here at NAESC is to get students started in computer science beginning in the early grades, so we were especially pleased to have over 175 first and second grade students from Nelson-Wilks-Herron Elementary in Mountain Home to participate.

"Additionally, one of our smaller schools, Izard County Consolidated Elementary won the district title for having almost all of their third and fourth grade students participate. We hope to have even more schools participating in our Hour of Code "Codemaster" competition next year.

Thank you to our Districts for recognizing the importance of computer science literacy in modern society.

"NWH posted images of the NWH Elementary students on their Facebook page as well. I am also posting Eagle Mountain Elementary, who had the most 5th grade students participating, though they also had good showings with their 3rd and 4th grade students."





# ASMSA CS PRAXIS BOOT CAMP

Educators preparing for the computer science Praxis are invited to apply for a three-day CS Praxis "Boot Camp" to be held March 5 - 7, 2021, at ASMSA in Hot Springs. Participants may choose to join remotely or face-to-face. Housing, meals, and materials will be provided at no cost to face-to-face participants, though space is limited for this grant-funded opportunity. Educators will be responsible for their own transportation to and from ASMSA and the registration cost for the Praxis exam.

Daniel Moix, Director of STEM Pathways at ASMSA, said the following regarding the program: "This will be our first year to conduct a hybrid workshop, with some participants on-site and others joining remotely. Last year's pivot to virtual meetings went well, but we want to serve those who learn best in-person as well as those who cannot travel yet. We have invested considerable time developing interactive resources that will be useful to all participants, regardless of their location." The workshop makes use of an online platform that presents instructional content alongside interactive exercises. Participants can use this online platform to practice individual topics they are just learning or still mastering.

"In addition to the three-day Praxis workshop in March, ASMSA offers year-long support to schools who would like assistance offering Computer Science Year 1 and Computer Science Year 2. Moix said, "What sets Coding Arkansas' Future apart from organizations that only provide curriculum or digital learning services is our emphasis on teacher empowerment. While our program includes a curriculum designed around Arkansas standards and leverages digital learning technologies, our focus is on growing the community of Computer Science teachers in the state."



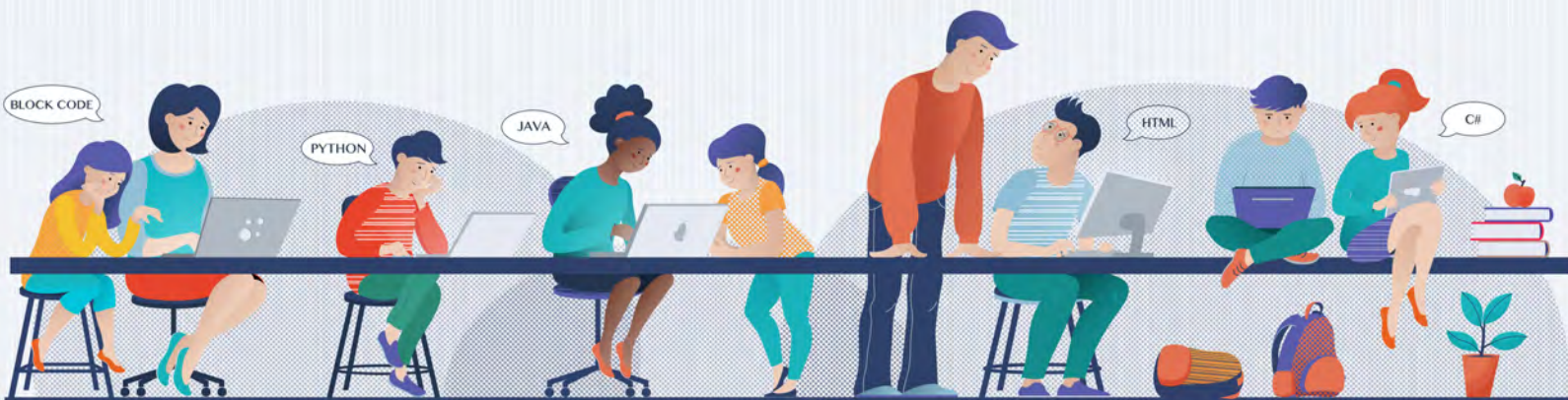
**ARKANSAS  
SCHOOL**  
FOR MATH,  
SCIENCES,  
+ THE ARTS

Maggie Strain, a teacher from Heber Springs High School said, "This past April, I participated in the CS Praxis Boot Camp online. This was early on in the pandemic soft shutdown, so I know they had to adjust their plans rapidly. True to my prior experiences with the ASMSA-related group of CS specialists, the training was really good! Everyone taking the training had taught the course, so we were able to focus on some of the trickier concepts covered by the CS Praxis exam. The explanations were clear, they created an environment where we felt comfortable asking "dumb" questions, and I passed with a score well above the cutoff!" Strain participates in the ASMSA Computer Science Plus program and is utilizing the full suite of curriculum and support this year.

To register for the three-day CS Praxis Boot Camp in March, please complete the Google Form linked below:  
[bit.ly/3p8aSLQ](https://bit.ly/3p8aSLQ)

To learn more about the Computer Science Plus program, which includes a full year of curriculum, remote support, and professional development, see this document: [http://bit.ly/3rMqTsJ](https://bit.ly/3rMqTsJ)

Please send all questions to Daniel Moix at [moixd@asmsa.org](mailto:moixd@asmsa.org).





# TECHNOLOGY STUDENT ASSOCIATION

The Technology Student Association (TSA) is in need of judges for the Arkansas TSA State Conference. The state conference will consist of 45 events for Arkansas middle school and high school students to compete.

There will be two opportunities for judging events. Some events have preliminary submissions that will need to be scored. This can be done electronically asynchronously between March 31 and April 7. Students who make it to the semifinal rounds will join scheduled zooms calls with judges on April 15 -16.

If you are a professional, teacher or an interested adult, check out the list of events and consider being one of our judges.

The Call to Judges information document found at <https://bit.ly/ARTSAJUDGES>, will provide additional information about TSA, the State Conference, and how you can help.



Arkansas TSA State Officers, after just being sworn in at the (pre-Covid) 2020 State Conference



## UPCOMING TRAINING

[bit.ly/CSforARPD](https://bit.ly/CSforARPD)

## #CSFORAR COFFEE CAFE

[bit.ly/ARCSCoffee](https://bit.ly/ARCSCoffee)

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February 2021



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